WHAT IS CLAIMED IS:

1. A recording apparatus having a first recording mode for recording additional information in a cyclic manner in a unit of m tracks (m is an integer of 2 or greater) and recording an encoded image signal on n × m tracks (n is an integer of 1 or greater) per one frame and a second recording mode for recording the additional information and the encoded image signal on n × m/2 tracks per one frame, said apparatus newly recording an image signal onto a recording medium on which the encoded image signal is recorded in the second recording mode, said apparatus comprising:

encoding means for encoding an input image signal;

additional information generation means for generating the additional information;

recording means for recording the image signal encoded by said encoding means and the additional information generated by said additional information generation means onto the recording medium; and

control means for controlling the recording means to start recording from a track at a head of the n × m tracks on which the image signal for two frames is recorded, in the case where the image signal and the additional information are newly recorded in said second recording means onto the

recording medium.

2. An apparatus according to claim 1, further comprising reproduction means for reproducing the image data and the additional information from the recording medium, wherein said control means determines recording start timing based on the additional information reproduced by the reproduction means.

3. An apparatus according to claim 2, wherein said control means determines the recording start timing based on the additional information reproduced from a predetermined number of tracks immediately before a recording start position.

4. An apparatus according to claim 2, wherein said control means detects a track phase in the n × m tracks based on the additional information reproduced from a track immediately before a recording start position, and determines the recording start timing based on the track phase.

5. An apparatus according to claim 1, wherein the additional information is track pair number information whose value varies every two tracks.

6. An apparatus according to claim 1, wherein the additional information contains pilot frame information indicating a recording state of a pilot signal which is recorded while being multiplexed onto the image signal.

7. An apparatus according to claim 1, wherein said additional information generation means generates the additional information whose contents vary every track, in a cyclic manner in a unit of the m tracks.

8. An apparatus according to claim 1, further comprising image capturing means for capturing an image of an object and outputting an image signal to said encoding means.

9. A recording apparatus for halfway recording a new image signal obtained by encoding an image signal of an image captured by an image capturing section, onto a recording medium on which additional information is recorded in a cyclic manner in a unit of m tracks (m is an integer of 2 or greater) with an encoded image signal being recorded on n × m/2 tracks per one frame, wherein the halfway recording is performed in a unit of 2 frames.

10. A recording apparatus for halfway recording a new image signal obtained by encoding an image signal of an image captured by an image capturing section, onto a recording medium on which additional information is recorded in a cyclic manner in a unit of m tracks (m is an integer of 2 or greater) with an encoded image signal being recorded on n × m/2 tracks per one frame, wherein the halfway recording is performed in a unit of n × m tracks.

11. A recording apparatus, comprising:

signal processing means for cyclically processing an input image signal in a period of n frames (n is an integer of 2 or greater);

additional information generation means for generating additional information whose contents cyclically vary in the n-frame period of the image signal;

recording means for forming a plurality of tracks on a tape-shaped recording medium by using a rotary head and for recording the image signal output from said signal processing means and the additional information generated by said additional information generation means on m tracks (m is an integer of 1 or greater) out of the tracks for one frame; and

control means, in response to a direction to end the recording, for controlling said recording

means to terminate the recording at the final track of n × m tracks on which the image signal for n frames is recorded in a cyclic manner.

12. An apparatus according to claim 11, further comprising detection means for detecting a phase of a track onto which recording is being executed by said recording means within the n × m tracks, based on the additional information recorded by said recording means, wherein said control means controls said recording means based on a result of detection obtained by said detection means.

13. An apparatus according to claim 1, wherein said signal processing means includes a memory for recording the image signal of the n frames, and the control means controls said recording means to terminate the recording at the final track based on a read-out address of said memory.

14. An apparatus according to claim 1, wherein the additional information is track pair number information that increases by a predetermined value every two tracks in a cycle of the n frames.

15. An apparatus according to claim 1, further comprising processing phase detection means for

detecting a processing phase of said signal processing means in the n-frame period, wherein said control means controls said recording means to terminate the recording at the final track, based on a result of detection obtained by said processing phase detection means.

16. An apparatus according to claim 1, wherein said signal processing means encodes the input image signal in accordance with SD High Compression Specifications defined by HD Digital VCR Conference, and said recording means records the encoded image signal on the tape-shaped recording medium in accordance with the SD High Compression Specifications.

17. A recording apparatus for forming a plurality of tracks on a tape-shaped recording medium by using a rotary head and for recording an image signal obtained by cyclically processing an input image signal in a cycle of n frames (n is an integer of 2 or greater) by a signal processing circuit and additional information whose contents cyclically vary in the n-frame period of the image signal on m tracks (m is an integer of 1 or greater) out of the tracks for one frame, wherein, in response to a direction to end the recording, the recording is terminated at the

final track of n × m tracks on which the n-frame image signal is recorded in a cyclic manner.